

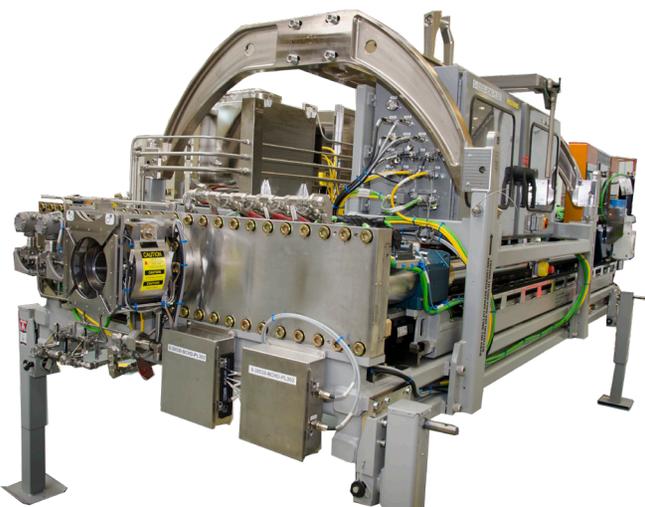


## WHAT WE MAKE

At BWXT Nuclear Energy Canada Inc. (BWXT NEC) in Peterborough, we assemble CANDU® fuel bundles for use in CANDU® reactors. The natural uranium pellets are produced at our Toronto facility and the zirconium tubes are manufactured at our Arnprior facility. These components are shipped to our Peterborough operation where they are assembled into fuel bundles that meet the stringent requirements of reactor operating conditions.

**BWXT NEC has supplied over a million fuel bundles for reactors.**

BWXT NEC's fuel handling and reactor inspection and maintenance tooling and delivery systems, are also designed and manufactured in Peterborough. These highly-engineered systems and tools support refurbishment requirements for reactor defuelling, fuel channel inspection and maintenance, and other reactor operating needs.



## WHO WE ARE

BWXT Nuclear Energy Canada Inc. (BWXT NEC), a subsidiary of BWXT Canada Ltd., has more than 60 years of extensive experience and innovation in the supply of nuclear fuel and fuel channel components, services, equipment and parts for the CANDU® nuclear power industry. This includes designing and supplying highly reliable equipment to fuel, inspect and refurbish reactors. BWXT NEC employs approximately 400 skilled employees at three locations in Ontario: Peterborough, Toronto and Arnprior. Learn more at [nec.bwxt.com](http://nec.bwxt.com).

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**BWXT Nuclear Energy Canada Inc.**

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## NATURAL URANIUM

Uranium is an element found all around us in nature: in most rocks and soils; in rivers and oceans; in the food we eat; and in our bodies. Because uranium is a naturally-occurring, low-level radioactive material that exists virtually everywhere, it contributes to what is called “natural background radiation.”

## HEALTH & SAFETY

BWXT NEC’s number one priority is the health and safety of workers, members of the public and the environment. BWXT NEC operates its facilities at the highest safety standards and in accordance with all applicable laws and regulations.

BWXT NEC makes publicly available its Annual Compliance Report which is submitted to Canada’s nuclear regulator, the Canadian Nuclear Safety Commission. The reports can be found at [nec.bwxt.com/safety](http://nec.bwxt.com/safety).

## ENVIRONMENTAL MONITORING

BWXT NEC is committed to minimizing the effects of its operations on the environment and complies with all relevant environmental regulatory laws.

The BWXT NEC Peterborough facility has very low emissions that are well below regulatory limits. More information on our environmental and safety performance can be found in our Annual Compliance Report which is available on our website at [nec.bwxt.com/safety](http://nec.bwxt.com/safety).

## URANIUM EMISSIONS MONITORING – AIR

Air and water emissions are continuously monitored for the presence of uranium. The results show the BWXT NEC Peterborough facility is a near-zero emissions plant.

At our Peterborough facility we perform in-stack sampling. Due to the nature of the process and stack sample results to-date, boundary monitoring is not required.

The release limit for uranium air emissions, which is set by the CNSC, is 550 g/year. BWXT NEC releases just a small fraction of the limit. The latest stack sampling results are as follows.

	2018	2019
Number of samples exceeding 1 µg/m <sup>3</sup> action level	0	0
Average concentration (µg/m <sup>3</sup> )	0.000	0.001
Highest value recorded (µg/m <sup>3</sup> )	0.006	0.014
Total discharge to air (g uranium)	0.002	0.004

## URANIUM EMISSIONS MONITORING – WATER

Water is used to clean floors and other janitorial functions in the uranium pellet loading and end closure weld areas.

At the BWXT NEC facility in Peterborough, all potentially uranium-contaminated waste water is held in storage tanks, filtered and then samples are sent to an external lab for analysis. This waste water is only released once the test results confirm it meets release requirements.

	2018	2019
Number of samples exceeding 6 ppm* batch release action level	0	0
Average uranium concentration at the point of release (ppm)	0.02	0.04
Highest uranium concentration at the point of release (ppm)	0.03	0.07
Total discharge to sewer (kg uranium)	0.00001	0.00002

\*Parts per million

The release limit for uranium water emissions, which is set by the CNSC, is 760 kg/year. BWXT NEC releases just a small fraction of the limit.

## RADIATION

Radiation is energy in the form of waves or particles. Radiation doesn’t just come from nuclear energy. It’s all around us – and we’re exposed to both natural and man-made sources of radiation daily. There are two types of radiation, ionizing and non-ionizing. Some examples of non-ionizing radiation include microwaves, radio waves and television signals. Ionizing radiation comes from natural sources and man-made sources such as x-ray machines and nuclear power plants.

## RADIATION PROTECTION

The Canadian Nuclear Safety Commission (CNSC) regulates the nuclear energy industry to limit the radiation that our employees and neighbours receive. Using studies performed by the International Commission on Radiological Protection on acceptable levels of radiation exposure, the CNSC has set limits for workers of 50 mSv per year, or 100 mSv per five-year span and 1 mSv per year for members of the public.

BWXT NEC has a comprehensive radiation protection program and is guided by the principles of ALARA (as low as reasonably achievable).

